

Operational Description of Wireless Outdoor Mount Ethernet Bridge SPEEDLAN 9000 Series

The outdoor wireless Ethernet bridge, FCC ID: NCBSL9101A and NSBSL9102A is a high performance bridge / router that create interconnectivity between buildings and providing links for LAN-to-LAN applications. This system can be used in star or mesh configuration. The functional block diagram of the bridge is presented on Figure 1. The outdoor wireless Ethernet bridges are installed on the pole or tower. The bridge containing 11 Mb/s MiniPCI Adapter, Embedded Processor and Voltage Regulator is enclosed in metal enclosure connected to the ground. The Ethernet data and DC supply voltage (18 to 36 Vdc) are injected through junction box and to up to 300 feet long Cat 5 Ethernet cable (2 pairs are used for DC voltage and other 2 for Ethernet data) and connected to the bridge. Than DC voltage is separated and connected to Voltage Regulator and Ethernet data are processed and transferred to WaveLan transmitter which is connected to 8 dBi omni or 24 dBi grid antenna .

If system is not transmitting it is in receiving mode. The received signal from antenna is amplified, processed, demodulated and through Cat 5 Ethernet cable connected to LAN system.

Technical Specification of SPEEDLAN 9000 Series Bridge

Radio

Type:	Direct Sequence Spread Spectrum (DSSS)
Frequency:	2400 – 2483.5 MHz (ISM Band)
Channels:	11
Processing Gain:	11 dB (Nominal)
Communication Method:	Half-duplex
Transmit Power:	15 dBm (Nominal)
Receiver Sensivity:	Max. –88 dBm (-80 at 11Mb/s)
Bit Rate:	1 to 11 Mbit/sec
Bit Error Rate:	Better than 10E-5
Modulation:	DBPSK at 1 Mbit/sec DQPSK at 2 Mbit/sec CCK at 5.5 and 11 Mbit/sec
Spreading:	11 chip Barker sequence with chipping rate 1 Mbaud

LAN Interface

Compliance:	IEEE 802.3 Ethernet
Physical Interface:	10Base-T ,10/100Base-TX
Ethernet Interface:	10 Mb/s Ethernet

General:

Power Supply:	18 to 36 Vdc 24 W
Temperature Range:	-40 to +70 C
Humidity (Non-immersion)	0 to 95 %
Range:	Up to 25 miles